

What is claimed is:

1 1. Apparatus for providing information in response to a query where the query and the
2 response thereto have defined forms, the query being addressed to a database table having at
3 least one row, each row having at least one named field, the query including at least one field
4 name to specify the information to be provided in the response and an indication of a manner
5 of selecting a row containing the information from the database table,
6 the apparatus comprising:
7 a virtual database service; and
8 an information source for the information to be provided which does not use the named
9 field to identify the information to be provided,
10 the virtual database service receiving the query, using the indication of the manner of selecting
11 a row to obtain the information to be provided from the information source, and providing the
12 information in the response,
13 whereby the apparatus presents a virtual database table of the form addressed by the query to a
14 source of the query .

1 2. The apparatus set forth in claim 1 wherein:
2 the indication of a manner of selecting a row includes a selection value; and
3 the information source provides a component of the information to be provided in
4 response to a match between the selection value and a pattern that matches a plurality of
5 values and is accessible to the information source.

1 3. The apparatus set forth in claim 1 wherein:
2 the query is an SQL query addressing the database table;
3 the field name is contained in a SELECT clause in the query; and
4 the indication of the manner of selecting a row is contained in a WHERE clause in the
5 query.

1 4. The apparatus set forth in claim 1 wherein:
2 the information source is an access evaluator which determines whether a user may
3 have access to an information resource;

the manner of selecting the row includes information from which the user and the information resource may be determined; and
the provided information includes an indication of whether the user determined from the information may access the information resource determined therefrom.

5. The apparatus set forth in claim 4 wherein:

the access evaluator determines whether the user may have access to the information resource by considering one or more access policies, each access policy indicating whether a user group may have access to a set of information resources and access by the user to the information resource being allowed when the access policies for the user groups to which the user belongs and the sets of information resources to which the information resource belongs so indicate; and

the manner of selecting the row contains membership information about the user from which membership of the user in a user group may be determined.

6. The apparatus set forth in claim 5 wherein:

the access evaluator uses the membership information to determine membership of the user in a user group.

7. The apparatus set forth in claim 6 wherein:

the access evaluator determines that there may be a user group such that membership in the user group would give the user access to the information resource; and

the provided information indicates a method of providing further information about the user in a further query from which the user's membership in the user group can be determined.

8. The apparatus set forth in claim 7 wherein:

the further information includes authentication information which may be used to validate the user's identity.

9. The apparatus set forth in claim 8 further comprising:

an additional information source that is an authenticator, the authenticator using the authentication information to validate the user's identity.

1 10. The apparatus set forth in claim 9 wherein:

2 the response to the further query provides an indication whether the user's identity is
3 valid.

1 11. The apparatus set forth in claim 5 further comprising:

2 an additional information source that is a user profile information source which
3 provides additional information about the user;

4 the information about the user includes a user information retrieval method
5 specification that specifies how the user profile information source provides the additional
6 information; and

7 the access evaluator uses at least some of the additional information to determine
8 membership of the user in the user group.

1 12. The apparatus set forth in claim 5 further comprising:

2 an additional information source that is an authenticator which validates the identity of
3 the user;

4 the authenticator uses the membership information to validate the identity of the user;
5 and

6 the access evaluator determines membership of the user in a user group only after the
7 authenticator has validated the user's identity.

1 13. The apparatus set forth in claim 4 further comprising:

2 an additional information source that is an authenticator which validates an identity of
3 the user;

4 the manner of selecting the row includes authentication information which the
5 authenticator uses to validate the user's identity; and

6 the provided information is obtained at least in part from the authenticator and includes
7 an indication of whether the user's identity is valid.

1 14. The apparatus set forth in claim 4 further comprising:

2 an additional information source that is a user profile information source which
3 provides additional information about the user;

- 4 the manner of selecting the row includes profile information gathering information
5 which indicates to the profile information source how to gather the profile information; and
6 the provided information is obtained at least in part from the profile information source
7 and includes the profile information.

10019101.12001